Chapter 6

Rail Movement Operations

This chapter provides guidance for rail planning and loading. This includes loading, blocking, and bracing military equipment on railway cars for movement within CONUS according to applicable loading rules. Railcar loading procedures in overseas areas are dictated by the HN carrier and published in local command directives.

RESPONSIBILITIES

6-1. The unit and the installation have planning and execution responsibilities during rail operations. The following is a list of these responsibilities.

DEPLOYING UNIT

6-2. Unit commanders or shippers submit movement requirements to the supporting ITO. Units are responsible for preparing their equipment for rail loading. This includes packing, crating, banding, blocking, and bracing secondary loads. Units load railcars under the technical supervision of the ITO. Army terminal units or DSBs may assist units during rail loading. The ITO is ultimately responsible for approving rail loads. Deploying units will use the following publications as guidance for railcar loading:

- FM 55-17.
- TB 55-2200-001-12.
- MTMCTEA Pamphlet 55-19.

Direct questions arising during rail loading that are not answered in these publications to the ITO. The ITO will coordinate with the railroad representative or the MTMCTEA to resolve the issue. MTMCTEA publishes transportability guidance for specific vehicles in the Army inventory system.

INSTALLATION TRANSPORTATION OFFICER

6-3. The ITO orders railcars in the types and quantities required based on the deploying unit's movement requirements. He will compute railcar requirements based on the shipping configuration of the items to be shipped. Accurate AUEL/DEL data is essential. The ITO will make maximum use of the available loading space to make the most efficient use of the assets and to reduce the carrier's transportation charges.

6-4. The ITO is the official liaison with MTMC and the railway agent. He inspects all railcars for serviceability before units begin loading. He provides technical advice to units on BBTM. He ensures that rail loading schedules are maintained according to the movement order. The ITO provides HAZMAT documentation as required. In conjunction with the railway agent, he checks applicable route clearances for each shipment of overweight or outsized items.

6-5. The ITO can use TC-ACCIS to prepare the GBL based on equipment data from the deployment equipment list. This information is obtained by scanning the military shipment labels using portable bar code readers. The scanned information is used to prepare the GBL and provides ITV.

DIRECTOR OF PUBLIC WORKS

6-6. The DPW provides units blocking and bracing materials needed to load military equipment on railcars. Units must request these materials from the DPW as far in advance as possible. The DPW also provides tools and assistance as required. At Army depots, the shipping activity or responsible supply agency may furnish these materials and services according to local organization and command policies.

RAIL EQUIPMENT

6-7. Units may deploy on DODX or commercial railcars. The types of railcars vary from carrier to carrier. There are three basic types of cars:

- Open top cars (flatcars and gondolas). These cars vary in length, but military-useful flatcars are 60, 68, and 89 feet long. The cargo requirements determine the type and size of the railcars to be ordered.
- Closed cars (boxcars).
- Specialty cars, such as multilevel, caboose, and heavy-lift; and TOFC.

6-8. Railcar capacities are defined by size and load limits. All railway freight cars in CONUS have the car number, length, width, and height (closed cars), capacity, lightweight (weight of the car empty), and load limit in pounds stenciled on the side.

6-9. The preferred type of flatcars for deployments are chain-equipped flatcars. They usually reduce the need for blocking and bracing material, reduce loading times, and reduce line-haul transportation costs.

6-10. Flatcars without side rails are easier to load. Vehicles wider than the railcar deck can be easily accommodated. This is particularly true for tracked vehicles. Side rails impose limitations on what can be loaded.

6-11. ITOs should first consider using DODX if available. DODX provide more flexibility in loading and unloading and eliminate the additional (demurrage) charges that can accrue on commercial railcars. If DODX are used, ITOs will report the movements to the MTMC area command.

RAIL SITE PREPARATION

6-12. The rail site must be clean, free of debris, and well lit. Position railcars to reduce the length of the gaps between railcars. Apply car brakes and chock rail wheels to prevent shifting during loading. The ITO inspects railcars for cleanliness and serviceability. Additional site preparation may include setting up command and control facilities, warming tents, and medical aid stations. When possible, turn off overhead electric wires.

6-13. Check chain tie-downs and position them on the railcar decks to avoid having to reposition chains after vehicles are loaded. Store unused chains in the channels to prevent damage. Place spanner boards between railcars when loading wheeled vehicles. As a general rule, at least 12 inches of the spanner should overlap the railcar deck. Most tracked vehicles do not require the use of spanners when rail loading. The ITO will provide spanners as required for rail operations. Spanners come in various lengths to meet operational requirements.

RAIL LOADING

6-14. The following are essential principles of loading, blocking, and bracing vehicles on flat cars or in boxcars:

- Cars must be suitable for safe transportation of the load. This is determined by a joint inspection between the ITO, the using unit, and the rail representatives when the empty cars arrive.
- Load and weight limits must not be exceeded.
- Loads must not exceed the width and height restrictions over the proposed route.
- Loads must be adequately secured on cars.

The railroads prescribe loading and tie-down requirements based on the load and type of railcar. The ITO will assist in determining the proper loading method. See Appendix C for equipment preparation standards and Appendix D for hazardous loads.

LOADING RULES

6-15. The AAR publishes loading rules that apply to both the railroad and the ITO or shipper. These rules are incorporated into military publications. This means that a railroad can refuse to accept an improperly loaded shipment and the ITO or shipper can refuse a car that they find unsuitable for the planned load. However, once the military accepts the car, units have full responsibility to comply with the AAR rules.

RESTRICTIONS

6-16. Restrictions on loading include the following general rules:

- Do not exceed the load limit of the car.
- Do not exceed one-half the load limit of the car on any axle.
- Balance the load on the car.
- When loading large and heavy items not otherwise covered by rules, load them with the largest dimensions and heaviest weight on the floor to prevent tipping.
- Secure items having a high CB to prevent tipping while in transit.
- Use idler cars when loads extend beyond the end of the loaded car.
- Do not place heavy equipment on trailers. This makes the load top heavy.

RAILCAR INSPECTIONS

6-17. When railcars arrive on the site, the ITO performs a joint inspection with the representative of the rail carrier before the railcars are placed at ramps or warehouses for loading. Another inspection is made after the railcars are loaded to ensure that the contents are loaded, blocked, and braced to comply with the applicable Army directives and AAR loading rules.

6-18. Details of the required inspections are discussed below. The ITO has a complete set of AAR rules and loading diagrams on file in his office that unit commanders and shipping activities may consult for guidance at any time.

6-19. During preloading inspections, check to ensure the following:

- On closed railcars, doors and fastenings are in good condition and operative. Roofs and sheathing are sound and tight, walls free of nails, and so forth. Interiors are clean and dry with floors intact.
- On open railcars, decks are free of residue or refuse from previous loadings and from foreign matter likely to damage cargo such as bolts, nails, and old blocking materials.
- On chain railcars, chains are present and serviceable. Decks must be free of residue or refuse and all wood decking is intact.

After loading inspections, check to ensure the following:

- Loads are evenly distributed (half the weight over each car truck if possible).
- Load limits are not exceeded.
- Cargo is adequately secured by blocks, braces, cables, and chains according to AAR loading rules.
- The height and width of the load is within the clearance limits of the railroads over which it is to be moved.

RESTRAINING MATERIALS

6-20. Properly applied tie-down devices are used to prevent load shifting as the train starts, stops, traverses curves, and runs over crossings and switches and loose rail joints. Tie-down devices are included on chain-equipped cars. They are not included on older wooden deck cars. For wooden deck cars, motion is controlled as follows:

- Lengthwise motion of vehicles and similar equipment is controlled by nailing chocks against the wheels. Drive nails in wheel chock blocks at right angles to the floor.
- Lateral motion is controlled by nailing side blocks of 2 X 4 lumber of suitable length against the wheel. Chafing of tires against the side blocks is prevented by nailing burlap, fiberboard, or other suitable waterproof barrier material under the blocks and extending it a minimum of 2 inches above them.
- Vertical motion is controlled by wire cable, usually attached to stake pockets.

LOADING VEHICLES ON RAILCARS

6-21. The most common and expeditious method of loading vehicles is called the circus method. This method uses flatcars as a roadbed with spanners placed between cars. Tracked vehicles may be loaded without spanners.

6-22. After the loading sequence for the train has been determined, the vehicles are staged in that sequence. They are then called forward to the ramp and driven onto the flatcars.

6-23. A guide should be stationed on the ramp and a guide stationed on each flatcar to direct vehicles and aid the drivers. A guide should also be stationed at each side of the flatcar near the spanners. His duty is to move the spanners so the distance between spanners conforms to the wheel width of the particular vehicle. When heavy equipment is loaded, spanners are secured to each car to prevent movement.

6-24. Brake wheel clearance on loaded open-top cars is prescribed by Rule 2, Section 1, AAR Rules Governing the Loading of Commodities on Open-Top Cars. Sufficient space must be provided around the brake wheel on open-top cars to ensure accessibility.

UNLOADING RAILCARS

6-25. Railcars must be off-loaded promptly at destination so they can be returned for further use and avoid payment of demurrage or detention charges. Tariffs usually allow 48 hours free time for unloading commercial railcars. DODX will not be detained by ITOs more than 10 days without prior approval of MTMC. Blocking, dunnage, and banding must be removed from unloaded cars before releasing to the carrier.